REMARKS/ARGUMENTS

Claims 1-3 and 6-11 are pending herein. Claim 1 has been amended as supported by Figures 1 and 12B and pages 18-19 and 30-32 in the specification, for example. Applicants respectfully submit that no new matter has been added.

Examiner Merkling is thanked for courtesies extended to Applicants' undersigned representative during a telephonic interview on August 26, 2009. During the interview, Examiner Merkling stated that the amendment to claim 1 would raise new issues after final rejection and thus would not be entered without an RCE. Accordingly, an RCE is filed herewith.

Claims 1-3 and 6-11 were rejected under §103(a) over Kato '181 in view of Yamada and Sugiyama, and further in view of Kato '335. To the extent that this rejection may be applied against the amended claims, it is respectfully traversed.

Claim 1 has been amended to clarify that the gas sensor includes a heater that is disposed only at a lower portion of the sensor element and a starting end position is defined as a projected position of an end of the first space close to the gas-introducing hole on the upper surface of the sensor element and the projected position of the end of the heater on the upper surface of the sensor element extends to the starting end position.

Kato '181 discloses a gas sensor element including a gas-introducing hole, a first chamber, a second chamber, a first diffusion rate-determining section and a signal-generating converting means for reducing or decomposing a NOx component contained in the measurement gas. The PTO relies upon Yamada for disclosure of a gas sensor element allegedly meeting the claimed dimensional Wc/We ratio. The PTO relies upon Sugiyama for allegedly teaching that the distance between the end of a sensor element and the beginning of a heater is a result-effective variable. The PTO relies upon Kato '335 for allegedly showing a heater coincident with the starting end of a measuring space.

Amended claim 1 is distinguishable from the cited references for at least the following reasons.

First, the PTO relies upon Yamada for allegedly disclosing structural dimensions that are sufficient to meet the claimed Wc/We ratio. However, the oxygen sensor of Yamada only contains a single space, which could correspond to the claimed first space. The physical structure of the sensor of Yamada is significantly different from the sensors disclosed in Kato '181, Kato '335 and Sugiyama. Specifically, in Yamada, the single space in the sensor element is heated by the heater disposed at upper and lower portions of the sensor element, whereas in Kato '181 and Kato '335, two spaces are heated by a heater disposed only at a lower portion of the sensor element, and in Sugiyama, a single space is heated by a heater disposed only at a lower portion of the sensor element. Due to these significant physical differences, there is no reason to expect that the physical dimensional relationship disclosed in Yamada could be directly applied to the sensors disclosed in Kato '181, Kato '335 or Sugiyama, because these physical differences result in differences in heat transfer paths and heat efficiency. Consequently, the physical dimensions of Yamada asserted by the PTO allegedly to meet the claimed Wc/We ratio cannot be directly applied to Kato '181 or Kato '335 because the optimal specific dimensions would be different for Kato '181, Kato '335 and Sugiyama.

Second, Yamada discloses heaters that are disposed on both the upper and lower portions of the sensor element. In contrast, amended claim 1 now clearly recites that the heater is disposed only at a lower portion of the sensor element. It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position to the exclusion of other parts necessary for a full appreciation of what such reference fairly suggests to one skilled in the art. *Bausch & Lomb v. Barnes-Hind/Hydrocurve*, 796 F.2d 443, 448, 230 USPQ 416, 419 (Fed. Cir. 1986), and "one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed

invention." *In re fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988). Here, based on the structural differences between Yamada, Kato '181 and Kato '335, one of skill in the art would not combine Yamada with Kato '181 or Kato '335 except as a hindsight reconstruction of the present invention, which is impermissible under U.S. Patent Law.

Third, as discussed in the Request for Reconsideration After Final Rejection filed July 21, 2008 and the attached Rule 1.132 Declaration of Mr. Takeya Miyashita, the entireties of which are incorporated by reference, the claimed gas sensors having the ratios within the claimed ranges demonstrate improved response times and light-off times in comparison to a prior art sensor, such as disclosed by Kato '181 and Kato '335, and an acceptable resistance to cracking at the voltage levels encountered during operation of the gas sensor. Although Applicants submitted data demonstrating the properties of response time with respect to the claimed Wc/We ratio and the properties of the light-off time with respect to the claimed La/We ratio, Applicants respectfully submit that the meaning of the term "light-off time" may not be properly understood by the PTO. Light-off time is defined as a startup time from the start of heating of the sensor to the start of operation of the sensor, which is one of the most important properties for the functioning of a sensor. Neither Kato '181, Kato '335, Yamada or Sugiyama discloses anything to do with light-off time, let alone teach one skilled in the art that light-off time can be improved considerably by selectively dimensioning the sensor, as in the case of the presently claimed invention.

Applicants respectfully submit that the improved light-off and response times, as well as the physical differences between the claimed sensor and the cited references, rebut the PTO's asserted *prima facie* case of obviousness, in accordance with MPEP §2144.05. Therefore, the present invention of amended claim 1 is distinguishable from the cited references for at least the reasons explained above.

Based on the above, the cited references fail to teach or suggest each and every element of amended claim 1. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

For at least the foregoing reasons, Applicants respectfully submit that all pending claims herein are in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for this application in due course.

The Examiner is requested to confirm that the drawings are acceptable, as Section 10 on the Office Action Summary page was left blank on all Office Actions to date.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

August 28, 2009
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